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Relating Thermal Properties of Polymeric Materials to Structural and Filler Characteristics TIM VIERHELLER, The University of Akron Wayne College — Thermal properties of polymeric systems and the relationship of these properties to a polymer's structure and reinforcing fillers are studied. Differential Scanning Calorimetry (DSC) and Thermal Gravimetric Analysis (TGA) are used to examine basic thermal properties (specific heat capacity, glass transition temperature, melting temperature, melting enthalpy, and decomposition temperature) of selected polymeric materials. The experimental results are in turn related to structure and reinforcing fillers for the following materials: polyethylene, nitrile rubber, and EPDM (ethylene propylene diene rubber.)

Tim Vierheller
The University of Akron Wayne College

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